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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/832,687	04/11/2001	Thomas Hamm	US20-00-1939	1882

7590 01/29/2003

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EXAMINER

LEE, SEUNG H

ART UNIT PAPER NUMBER

2876

DATE MAILED: 01/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/832,687

Applicant(s)

HAMM ET AL.

Examiner

Seung H Lee

Art Unit

2876

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 19 November 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1. Receipt is acknowledged of the response filed on 19 November 2002, which has been entered in the file.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 9-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Re claim 9, line 4: The phrase "said sensor" lacks proper antecedent basis.

Appropriate clarification and correction is required.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 7-8, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kunselman et al (US 5,436,723, of the record)(hereinafter referred to as 'Kunselman') in view of Savoye et al. (US 5,880,777)(hereinafter referred to as 'Savoye').

Kunselman teaches a spectro-analytical system comprising an imaging device or structure (8) having a reflective grating device (16) for imaging a light or an incident beam onto the photo-multiplier sensors (20A-H) in which serves as photodiode line disposed along Rowland circle (22) (see Fig. 1; col. 2, line 67- col. 3, line 27).

However, Kunselman fails to teach or fairly suggest that the system includes a support mount element having a shape corresponding to the focal surface.

Savoye teaches a CCD image substrate (208) severing as a sensor array is mounted on a support element (208) wherein the support element having a circular shape on one side (see Fig. 12A-12D; col. 28, line 29- col. 30, line 20).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Savoye to the teachings of Kunselman in order to provide an improved and an enhanced system means wherein installing of the CCD image sensor on the non-planar surface such as Rowland Circle would illuminate the unwanted weight to the system since the input light is immediately directed to the CCD image sensor. Moreover, such modification would improve a readability means for detecting signals precisely using the CCD image sensors, and therefore an obvious expedient.

6. Claims 2-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kunselman as modified by Savoye as applied to claim 1 above, and further in view of Chen et al. (US 6,256,090, of the record)(hereinafter referred to as 'Chen').

The teachings of Kunselman/Savoye have been discussed above.

Although, Kunselman/Savoye teaches the optical device having a sensor array, they fail to particularly teach or fairly suggest that the sensor array element is mounted on a flexible structure.

However, Chen teaches a flexible structure (22) having an array of sensors (24) (see Fig. 2; col. 6, line 43-col. 8, line 28).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the CCD image substrate of Savoye with the flexible structure having sensors of Chen in order to provide a flexibility means wherein the sensor array can be any form/shape to fit system therewith (i.e., the sensor array can be a shape of circular, non-circular, etc.). Although, Kunselman as modified by Crawford fails to teach or fairly suggest that the thickness of the flexible structure range from 1 micrometer to 0.1 millimeters, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the thickness of the structure of Crawford to adjust the size of the spectrometer, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980), failing to provide any unexpected results.

7. Claims 9-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kunselman as modified by Savoye and Chen.

The teachings of Kunselman/Savoye/Chen have been discussed above.

In addition to the teachings of Savoye as discussed above, he also shows the two ends (213) of the sensors array located on an edge of the sensor array (see Fig. 12C).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the CCD image substrate of Savoye with the flexible structure having sensors of Chen in order to provide a flexibility means wherein the sensor array can be any form/shape to fit system (i.e., the sensor array can be a shape of circular, non-circular, etc.). Although, Kunselman as modified by Crawford and Chen fails to teach or fairly suggest that the thickness of the flexible structure range from 1 micrometer to 0.1 millimeters, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the thickness of the structure of Crawford to adjust the size of the spectrometer, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980), failing to provide any unexpected results.

### ***Response to Arguments***

8. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure;

Machler [US 6,005,661], Beranek et al [US 5,493,393], Hughes et al [US 3,532,429], Talmi [US 4,259,014], Curtiss [US 5,856,870], Brooks et al [US 5,963,320], Korendyke [US H1152] disclose a spectrometer system,

Horwitz et al [US 5,424,827], Harnly et al [US 5,018,856], Kimura et al [US 4,647,202] disclose an optical system for separating spectra.

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Seung H. Lee whose telephone number is (703) 308-5894. The examiner can normally be reached on Monday to Friday from 7:30 AM to 4:00 PM.

If attempt to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Lee, can be reached on (703) 305-3503. The fax-phone number for this group is (703) 308-5841 or (703) 308-7722.

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [michael.lee@uspto.gov].


*All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record*




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*includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.*

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

  
Seung H. Lee  
Art Unit 2876  
January 15, 2003

  
MICHAEL G. LEE  
SUPERVISORY PATENT EXAMINER  
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